AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) A method for measuring activity signals of a biological sample using a porous insulating substrate provided with a measurement electrode, the measurement electrode being arranged on a front surface of the porous insulating substrate, the method comprising the steps of:

injecting a target liquid containing [[a]] the biological sample into a measurement chamber;

trapping the biological sample onto [[a]] the measurement electrode provided on the front surface of the porous insulating substrate by conveying the target liquid from the measurement chamber and then passing the target liquid through [[a]] the porous insulating substrate from the front surface to a back surface thereof to cause the biological sample to be adsorbed to the measurement electrode ~~provided with the measurement electrode on at least one side~~; and

measuring activity signals of the biological sample through the measurement electrode.

2. (Original) A method for measuring activity signals of a biological sample according to claim 1, wherein the step of trapping the biological sample onto the measurement electrode comprises the step of sucking and then passing the target liquid through the porous insulating substrate.

3. (Original) A method for measuring activity signals of a biological sample according to claim 1, wherein the step of trapping the biological sample onto the measurement electrode

comprises the step of conveying and discharging the entire target liquid stored in the measurement chamber; and said method further comprising the step of injecting a new target liquid containing a biological sample into the measurement chamber after the step of measuring activity signals of the previously injected target liquid, wherein measurement of activity signals of the new target liquid can be conducted by conveying the new target liquid from the measurement chamber.

4. (Original) A method for measuring activity signals of a biological sample according to claim 3, wherein the step of trapping the biological sample onto the measurement electrode further comprises the step of sucking the entire target liquid stored in the measurement chamber and then passing the entire target liquid through the porous insulating substrate.

5. (Original) A method for measuring activity signals of a biological sample according to claim 3, further comprising the step of replacing the porous insulating substrate before the step of injecting the new target liquid containing the biological sample to the measurement chamber and after the step of measuring activity signals of the previously injected target liquid.

6. (Original) A method for measuring activity signals of a biological sample according to claim 1, wherein the porous insulating substrate is composed of a resin film having a pore diameter of not less than 1 μm but not more than 1,000 μm and a thickness of not less than 1 μm but not more than 10,000 μm.

7. (Original) A method for measuring activity signals of a biological sample according to claim 1, wherein the porous insulating substrate is further provided with a conductor which is formed on at least one side via a mask layer and is electrically connected to the measurement

electrode and the measurement electrode is infused into the porous insulating substrate more deeply than the conductor.

8. (Original) A method for measuring activity signals of a biological sample according to claim 7, wherein the measurement electrode and the conductor are formed by sputtering a conductive material onto the surface of the porous insulating substrate.

9. (Original) A method for measuring activity signals of a biological sample according to claim 1, wherein the step of injecting the target liquid into the measurement chamber further comprises the step of injecting the same or different type of target liquid separately to a plurality of measurement chambers; and the step of trapping the biological samples onto the measurement electrode further comprises the step of sucking the target liquid stored in the plurality of measurement chambers via a common suction line that communicates with the measurement chambers and then passing the target liquid through a porous insulating substrate, wherein at least one side of the porous insulating substrate is provided with a plurality of measurement electrodes corresponding to each of the measurement chambers, so that the same or different type of target liquid is simultaneously trapped onto each of the measurement electrodes.

10. (Original) A method for measuring activity signals of a biological sample according to claim 1, further comprising the steps of: calculating the standard deviation per a predetermined number of samples based on time-series data of the activity signals outputted via the measurement electrode; calculating the mean value of a plurality of the obtained standard deviations; evaluating activity of the biological samples based on the mean value of the obtained standard deviations; and displaying the results of the activity evaluation.

11. (Original) A method for measuring activity signals of a biological sample according to claim 1, further comprising the steps of: calculating the standard deviation per a predetermined number of samples based on time-series data of the activity signals outputted via the measurement electrode; classifying the obtained plurality of standard deviations into a plurality of classes set by a predetermined width and approximating the classification results to the normal distribution; evaluating activity of the biological samples based on the obtained normal distribution; and displaying the results of the activity evaluation.

12. (Original) A method for measuring the activity signals of a biological sample according to claim 11, wherein the step of evaluating activity further comprises the steps of: calculating the mean value and half-width of the obtained normal distribution; and evaluating activity based on the obtained mean value and half-width.

13. (Withdrawn) An apparatus for measuring activity signals of a biological sample comprising:

a measurement chamber storing a target liquid containing a biological sample; a porous insulating substrate provided with a measurement electrode on at least one side; and a conveying device which conveys the target liquid stored in the measurement chamber and passes the target liquid through the porous insulating substrate from the measurement electrode side, wherein the conveying device is operated to trap the biological samples contained in the target liquid onto the measurement electrode, so that the activity signals of the biological samples are measured through the measurement electrode.

14. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, further comprising a reference electrode that is provided in the measurement chamber.

15. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, wherein the conveying device further comprises a suction apparatus for sucking and then passing the target liquid through the porous insulating substrate.

16. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 15, wherein the porous insulating substrate is detachably provided between the measurement chamber and the suction apparatus.

17. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, wherein the porous insulating substrate is composed of a resin film having a pore diameter of not more than 1 μm but not less than 1,000 μm and a thickness of not more than 1 μm but not less than 10,000 μm.

18. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, further comprising: a conductor electrically connected to the measurement electrode, wherein the conductor is formed on one side of the porous insulating substrate via a mask layer and the measurement electrode is infused into the porous insulating substrate more deeply than the conductor.

19. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 18, wherein the measurement electrode and the conductor are formed by sputtering a conductive material onto a surface of the porous insulating substrate.

20. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, wherein the measurement chamber and the conductor are provided in plural; the conveying device is provided with a common suction line communicating with each of the measurement chambers; and the conveying device is operated to simultaneously trap the biological samples contained in the target liquid stored in the measurement chambers onto the corresponding measurement electrodes.

21. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 20, further comprising a plurality of reference electrodes provided in the plurality of measurement chambers, respectively.

22. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, further comprising: a means for calculating the standard deviation per a predetermined number of samples based on time-series data of activity signals outputted via the measurement electrode; a means for calculating the mean value of a plurality of the obtained standard deviations; a means for evaluating the activity of the biological samples based on the obtained mean value of the standard deviations; and a means for displaying the results of the activity evaluation.

23. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 13, further comprising: a means for calculating the standard deviation per a predetermined number of samples based on time-series data of activity signals outputted via the measurement electrode; a means for classifying the obtained plurality of the standard deviations into a plurality of classes set by a predetermined width and approximating the classification results to the normal distribution; a means for evaluating the activity of the biological samples

based on the obtained normal distribution; and a means for displaying the results of the activity evaluation.

24. (Withdrawn) An apparatus for measuring activity signals of a biological sample according to claim 23, further comprising: a means for calculating the mean value and half-width of the obtained normal distribution, wherein the activity is evaluated based on the obtained mean value and half-width of the normal distribution.